

IN THE CLAIMS:

Please amend the claims as follows:

1. (Original) A light-wave circuit module comprising:

a substrate having a spot of substantially circular concave shape;

an optically reflective film formed along an inner surface of said spot; and

a planar optical waveguide passing through said spot;

wherein light of said optical waveguide is reflected and focused obliquely upward by said optically reflective film in said spot.

2. (Currently amended) The light-wave circuit module according to claim 1,

wherein a portion of said planar optical waveguide is located in said spot;

said portion of the planar optical waveguide is formed on said substrate, said optically reflective film being disposed between said portion of said planar optical waveguide and said substrate; and

light that is guided along said planar optical waveguide leaks into said spot and is focused on a focal point that is set by said substantially circular concave shape.

3. (Original) A light-wave circuit module comprising:

a substrate having a spot of substantially circular concave shape; and

a groove that is formed on said substrate and linked to a portion of a perimeter of said spot;

wherein at least a portion of a planar optical waveguide is formed in said groove;

wherein an optically reflective film is formed on an inner surface of said spot;

wherein an end face of said planar optical waveguide is located at a periphery of said spot; and

wherein light that is guided by said optical waveguide enters said spot from said end face and is focused on a focal point that is determined by said substantially circular concave shape.

4. (Original) A light-wave circuit module comprising:

a substrate having a spot of substantially circular concave shape; and

a slanted path that is formed on said substrate and linked to at least a portion of a perimeter of said spot;

wherein at least a portion of a planar optical waveguide is formed on said slanted path; and

wherein, on an inner surface of said spot, an optically reflective film is formed at least on a side that is in opposition to the side linked to said slanted path.

5. (Original) A light-wave circuit module comprising:

a substrate having a spot of concave shape; and

a groove that is formed on said substrate and linked to a portion of a perimeter of said spot;

wherein at least a portion of a planar optical waveguide is formed in said groove;

wherein an optically reflective film is formed on an inner surface of said spot; and

wherein a bottom surface of said groove is located near a bottom surface of said optically reflective film in said spot.

6. (Original) A light-wave circuit module comprising:

a substrate on which a plurality of spots of substantially circular concave shape are formed; and

an optically reflective film formed along inner surfaces of said spots;

wherein said spots are linked by a planar optical waveguide.

7. (Original) The light-wave circuit module according to claim 6,

wherein said planar optical waveguide includes branched portions;

wherein said branched portions are linked to said spots, and at least a portion of said branched portions has the function to transmit or reflect a certain wavelength; and

wherein photodetectors are provided above said spots.

8. (Original) A light-wave circuit module comprising:

a substrate having a first surface and a second surface substantially in opposition to the first surface;

a spot of substantially circular concave shape that is formed on said first surface of said substrate; and

an optically reflective film that is formed along an inner surface of said spot;

wherein a first planar optical waveguide is provided on said first surface;

wherein a second planar optical waveguide is provided on said second surface;

wherein said first planar waveguide is linked to said spot;

wherein a through hole connecting said first surface and said second surface is formed in a portion of said spot; and

wherein said second planar optical waveguide is linked to said spot through a translucent medium that is filled into said through hole.

9. (Original) The light-wave circuit module according to claim 1, wherein said planar optical waveguide is made of a transparent translucent resin.

10. (Original) The light-wave circuit module according to claim 3, wherein said planar optical waveguide is made of a transparent translucent resin.

11. (Original) The light-wave circuit module according to claim 4, wherein said planar optical waveguide is made of a transparent translucent resin.

12. (Original) The light-wave circuit module according to claim 5, wherein said planar optical waveguide is made of a transparent translucent resin.

13. (Original) The light-wave circuit module according to claim 6, wherein said planar optical waveguide is made of a transparent translucent resin.

14. (Original) The light-wave circuit module according to claim 8, wherein said planar optical waveguides are made of a transparent translucent resin.

15. (Currently amended) A method for manufacturing a light-wave circuit module including a substrate having a spot of substantially circular concave shape and an optical waveguide linked to said spot, said method comprising:

- a step of preparing a substrate made of a polymer sheet; ~~and~~
- a step of forming a concave surface of said spot by subjecting said substrate to embossing by applying at least one selected from heat and pressure; and
- a step of forming an optical waveguide linked to said spot.

16. (Original) A light-wave circuit module, comprising:

- a concave portion having a substantially circular arc-shaped surface or substantially spherical surface, formed on a substrate;
- an optical waveguide formed on said substrate; and
- a photodetector arranged above said concave portion and receiving light that has been transmitted by said optical waveguide and reflected by said concave portion.

17. (Original) The light-wave circuit module according to claim 16, wherein at least a portion of said optical waveguide is slanted with respect to a principal surface of said substrate.

18. (Original) A light-wave circuit module, comprising:

- a step portion having a substantially circular arc-shaped surface or substantially spherical surface, formed on a substrate;
- an optical waveguide formed on said substrate; and

a photodetector arranged above said step portion and receiving light that has been transmitted by said optical waveguide and reflected by said step portion.

19. (Original) The light-wave circuit module according to claim 15, wherein an optically reflective film is formed on an inner surface of said concave portion.

20. (Original) The light-wave circuit module according to claim 17, wherein an optically reflective film is formed on an inner surface of said concave portion.